What is claimed is:

1. A tow having a controlled, predetermined electrical resistance comprising:

a predetermined number of carbon fibers forming a tow;

wherein the tow is subjected to a predetermined stress level while simultaneously being subjected to a first predetermined elevated temperature associated with fabricating the tow.

2. The tow of claim 1, wherein the predetermined stress level decreases an alignment angle between at least one carbon molecule within the predetermined number of carbon fibers with respect to a basal plane.

3. The tow of claim 2, wherein the alignment angle is from 0 to about 30 degrees.

4. The tow of claim 2, wherein the alignment angle is about ten degrees.

5. The tow of claim 1, wherein the first predetermined elevated temperature is associated with a stabilization process.

6. The layer of claim 1, wherein the carbon fibers have a predetermined degree of turbstratic orientation.

7. The layer of claim 1, wherein an electrical resistance of the tow may be increased by up to about an order of magnitude of 2.

8. A method for fabricating a tow having a controlled, predetermined electrical resistance, the steps comprising:

providing a predetermined number of carbon precursor fibers to form a tow;

stressing the tow to a predetermined stress level while simultaneously subjecting the tow to a first predetermined elevated temperature associated with fabricating the tow; and

subjecting the tow to a second predetermined elevated temperature associated with fabricating the tow.

9. The method of claim 8, wherein the first predetermined elevated temperature of the tow stressing step is associated with the stabilization process.

10. The method of claim 8, wherein the second predetermined elevated temperature of the tow stressing step is associated with the carbonization process.

11. The method of claim 8, further including the additional step of subjecting the tow to a third predetermined elevated temperature associated with fabricating the tow.

12. The method of claim 8, wherein the predetermined number of carbon precursor fibers are comprised of carbon PAN fibers.

13. The method of claim 11, wherein the third predetermined elevated temperature of the tow stressing step is associated with a graphitization process.

14. A method for fabricating a tow having a controlled, predetermined electrical resistance, the steps comprising:

providing a predetermined number of carbon PAN fibers defining a predetermined number of filaments forming a portion of a tow;

stressing the predetermined number of carbon PAN fibers to a predetermined stress level while simultaneously subjecting the predetermined number of carbon PAN fibers to a first predetermined elevated temperature associated with fabricating the predetermined number of carbon PAN fibers;

subjecting the predetermined number of carbon PAN fibers to a second predetermined elevated temperature associated with fabricating the carbon PAN fibers, the second predetermined elevated temperature converting the predetermined number of carbon PAN fibers to carbon fibers defining a predetermined number of carbon fiber filaments;

providing a predetermined number of nonconductive fibers defining a predetermined number of filaments forming a portion of a tow; and

blending the predetermined number of carbon fiber filaments with the predetermined number of nonconductive fiber filaments to form a tow.

15. The method of claim 14 wherein in the blending step a ratio of the predetermined number of carbon fiber filaments to the predetermined number of nonconductive fiber filaments is about 50:1.

16. The method of claim 14 wherein the blending step is a stretch breaking process.

17. The method of claim 16 wherein in the blending step a ratio of the predetermined number of carbon fiber filaments to the predetermined number of nonconductive fiber filaments is from about 50:1 to about 1:50.